INVESTIGATING SENSE OF COMMUNITY AND ACADEMIC SUCCESS IN FIRST YEAR COLLEGE STUDENTS IN THE DEPARTMENT OF NATURAL RESOURCES MANAGEMENT

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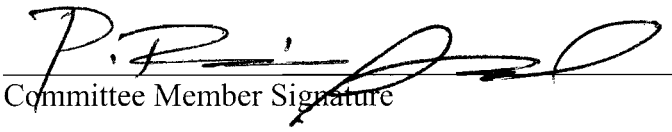

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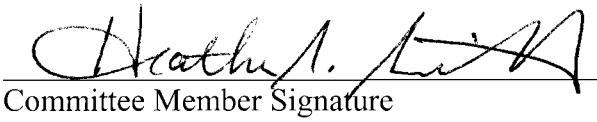

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ABSTRACT

Investigating a Sense of Community and Academic Success in First Year College Students in the Natural Resources Management Department

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This study explored the relationship between sense of community, factors that influence sense of community, and the effect of academic success of first year students in the Natural Resources Management Department at Cal Poly State University, San Luis Obispo. An adapted version of the sense of community index was used to collect data from first year students (n=90) in the Natural Resources Management Department. Linear regression was used to determine which variables had a significant influence on sense of community and academic success. The results of the study indicated that there was not evidence that grade point average (GPA) had a significant influence on sense of community. The factors of gender, participation in recreational sports clubs, participation in ASI-sponsored clubs, living on campus, and students' major meeting their expectations all had a significant influence on students' sense of community index score. Keywords: college students, sense of community, sense of belonging, Natural Resources Management, employment, on-campus living, academic success, recreational sports.

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Chapter 1 Introduction

Introduction

This thesis is a study of the relationship between sense of community, factors that influence sense of community, and the effect of academic success of first year students in the Natural Resources Management Department at Cal Poly State University, San Luis Obispo. The first part of this quantitative study examines factors that influence sense of community in first year students. The second part examines the role of sense of community on academic success. The study used a questionnaire to measure the influence of the factors that influence sense of community. This study identified the relationship between sense of community GPA, to understand how Cal Poly can create a major program in which the students can be successful academically and want to stay in the program. This study can also help researchers identify the variables that influence students' sense of community so that the university community can give more effective support to students who may feel alienated. This first chapter of this study presents the background, the need for the study, the purpose statement, a problem statement that the thesis proposes to answer, a definition of terms, delimitations, limitations, and a summary.

Background

Colleges and universities in the United States are under increasing pressure to keep students at their universities in order to raise retention and graduation rates. Because of this, there have been many ways in which colleges and universities have tried to help students transition from high school to college, including first year orientations, on campus housing options, university-sponsored clubs and events, recreational

opportunities, peer advising and mentoring programs, and employment options. Some of these activities help students stay at a college or university, others are less helpful. College and university administrators would like to know which factors have influenced students to stay at a university, and which are not worth investing in. In addition, some of these help students become more academically successful, and others do not. Academic success is important in school it measures how successful students were in school.

Every year, many Cal Poly students do not return to Cal Poly. The largest groups of these students are first year students. In 2002, the latest report available, the Cal Poly Institutional Planning and Analysis office surveyed non-returning students (Krupp & Nielsen, 2002). The top three reasons for students not returning were for personal reasons, unmet Cal Poly academic requirements, and problems changing majors, or students' major not offered at Cal Poly. Over the final three years of the survey, 2000-2002, unmet Cal Poly academic requirements and problems changing majors had been increasing, while personal problems had been holding steady in the last three years.

There are three majors in the Natural Resources Management department: Environmental Management and Protection (ENVM); Forestry and Natural Resources (FNR); and Recreation, Parks, and Tourism Administration (RPTA). The ENVM major is a new major beginning in fall of 2003, and has been gaining students. The RPTA major has been steadily gaining students, while the FNR major has been losing students over the past five years. The NRM department faculty would like to know why the FNR major has been losing students and the RPTA major has been gaining students. In

addition, the department would like to use that information to help the new ENVM gain and sustain student success.

Need for the Study

First year first time students enrolled in the three different majors within the department of Natural Resources Management have very different retention rates. Sense of community can influence retention rates because if students feel more connected to their community, they are more likely to stay part of that community (McMillan & Chavis, 1986). This study aims to identify the factors that influence sense of community within the three majors. This is important to university administrators because they want to know where they spend time and resources to make a greater impact in students' lives.

Academic success is important in school. If students fail, students are no longer in school. Many students have difficulty in school because they do not feel academically connected to others on campus. This isolation can create problems for both the student and the academic institution because students will transfer or not finish their degrees. Certain factors such as age, major, living arrangement, ethnicity, club membership, WOW participation, satisfaction with major, intent to return, and employment may help connect with one another and help them feel more integrated in the university. Academic and social integration is important for students to be successful, and can lead to a better functioning academic institution for everyone.

Factors that influence sense of community can greatly influence students' sense of community or GPA in college. For example, students' living situations, employment, and participation in clubs can all affect students' sense of community (Berger, 1997). Peer advising and mentoring programs have been found to increase

academic success (Jacobi, 1991). This study seeks to determine if peer advising and/or mentoring have an effect on sense of community or academic success, or both.

The three majors have different retention and dropout rates, as identified by the tables below. The study can also help identify why students of the different majors are successful, and why they are not successful, and the role that sense of community plays in students' decisions.

Table 1

Enrollment by Major, Fall 2000-Fall 2007

Major	2000	2001	2002	2003	2004	2005	2006	2007
ENVM	0	0	0	3	40	68	105	143
FNR	235	249	226	226	208	209	199	184
REC	229	251	290	309	286	300	295	299

Source: IPA, 2007

In addition to having enrollments, the different majors have very graduation rates. In the 1999 cohort, students who graduated in 2003, the Recreation, Parks, and Tourism Administration major at a 75% six-year graduation rate. The Forestry and Natural Resources Management major had a 31% six-year graduation rate (Krupp & Nielson, 2002). The third major, Environmental Management and Protection, did not have enough data to be comparable with the other two majors. There are vastly different graduation rates. Faculty and administrators want to know why so that they can increase those numbers and have those students become more successful. Parents and students want to increase those numbers so that they and their children can know that they will graduate and be more successful in the future.

Another piece of information that administrators like to track are the retention rates of majors This table reflects the percentage of entering freshmen who returned Fall term, one year after matriculation.

Table 2

One-Year Retention Rates (five year trends)

Major	5 Year Average	2001 Cohort	2002 Cohort	2003 Cohort	2004 Cohort
ENVM	94.4%	N/A	N/A	N/A	94.4%
FNR	83.2%	82.2%	70.7%	93.8%	80.8%
REC	88.8%	87.9%	87.5%	95.0%	86.1%

Source: IPA, 2006

Purpose Statement

The purpose of this study was to determine the factors that influence sense of community for first time first year students within the NRM department at Cal Poly, as well as the influence of sense of community for first time first year students on the students' grade point average.

Research Questions

1. What factors influence sense of community?
    a. Do the factors of age, major, living arrangement, ethnicity, club membership, WOW participation, satisfaction with major, intent to return, and employment affect sense of community?
2. Does sense of community influence GPA?

Definition of Terms

These definitions provide a common language of terms used in this study.

1. *First year first time students*: a student who have matriculated at Cal Poly or any other college or university for the first time.
2. *Intent to return*: the probable decision a student will make to either return to college for a second year or not.
3. *Race/ethnicity*: category used to describe groups to which individuals belong, identify with, or belong in the eyes of the community. The categories are self-reported and do not reflect any biological, cultural, or social origins.
4. *Sense of Community*: a feeling that members have a belonging and being important to each other, and a shared faith that members' needs will be met by the commitment to be together (Chavis, Hogge, McMillan, and Wandersman, 1986, p. 102).
5. *Sense of Community Index*: a measure of sense of community (McMillan & Chavis, 1986).

Delimitations

The study had the following delimitations:

1. Data collection took place during Winter Quarter 2008.
2. Students at Cal Poly San Luis Obispo were able to participate.
3. The census that was conducted had a response rate of approximately 60%.
4. The were was limited variation in the data.

Limitations

The study had the following limitations:

1. Limited to students enrolled in classes that were sampled.
2. Limited to students who attended class the day of survey collection.

3. Limited to students who volunteered to participate in the study.

Summary

This study examines first year first time students in the Department of Natural Resources at Cal Poly. Also, this study examines the relationship between sense of community and academic success. The study also examines the relationship between sense of community and factors that affect sense of community as well. This study is important because the department would like to know why students intend to return to some majors and not others, and they can use that information to better inform majors in the future.

Chapter 2 Review of Literature

Introduction

Most of the research on sense of community has come from the field of community psychology. Most of the research on academic success had come from the education field, some of which has been reviewed from higher education literature. This chapter will include a review of the literature pertinent to the study.

Sense of Community

Sense of community theory has its roots with Sarason, who wrote extensively on community psychology. He found out that some members knew a sense of belonging existed in their community, and they knew when it did not (Sarason, 1974). Many people researched the dimensions of sense of community (Bardo, 1976; Doolittle & McDonald, 1978; Glynn, 1981; Naser & Julian, 1995, Skjaeveland, Garling & Maeland, 1996). However, many of these studies used sense of community indexes for specific contexts. Many of these contexts dealt with place attachment. Researchers in community psychology began using sense of community ideas to research how people interacted among each other. Riger and Lavarakas (1981) studied community attachment related to sense of community, and they found factors called social bonding and behavioral rootedness McMillan and Chavis (1986) extended the sense of community to include relationships among people.

The salient definition of community in the literature is that community is "relational and concerned with quality of character of human relationship, without reference to location" (Chavis, et al., 1986). Based on the previous research, McMillan

and Chavis (1986) created a four-dimensional structure of sense of community. This was the first sense of community index that focused relationship attachment as opposed to place attachment. The four dimensions of the sense of community index include membership, influence, integration, and fulfillment of needs, and shared emotional connection.

According to McMillan and Chavis (1986), membership is the feeling of belonging or of sharing a sense of personal relatedness. Membership has five elements: boundaries, emotional safety, a sense of belonging and identification, and personal investment, and a symbol system. Boundaries create a division among people who belong and people who do not. Boundaries are particularly divisive for communities because members are either in the community or not part of the community. When a member is within the boundaries of the community, the community helps keep the person secure provides comfort, and helps keep the person emotionally safe and secure (McMillan & Chavis, 1986).

A sense of belonging and identification is the feeling and expectation that one fits in a group. Personal investment is important in feeling a sense of community because the more a member puts into the community, the more he or she feels he is part of the community. A common symbol system helps to reinforce boundaries because the common symbol gives members an identifier. On a local level, a symbol can be the name of a town or community. At a regional level, a common symbol can be certain language or accent people identify with that sets them apart from other regions. On a national level a common symbol can be a national flag, and everyone who recognizes the flag is included in the nation (McMillan & Chavis, 1986).

Influence is defined as a manipulation that one person or group has over another person or group. According to McMillan and Chavis (1986), a bidirectional relationship exists. People can influence groups, and groups can influence people. Both of these ideas can happen at the same time. People who acknowledge that others' needs, values, and opinions matter to them are the most influential members of a group, while people that try to dominate others and ignore the wishes and opinions of others are often the least powerful members of a groups. In addition, there is a significant positive relationship between a community's influence on its members to conform and cohesiveness. Both conformity and community's influence on members indicate the strength and the importance of the bond (McMillan & Chavis, 1986).

Integration and fulfillment of needs is defined as reinforcement, which is a primary function of a strong community. People who reinforce the values of the community of have a higher status of membership. They are more successful in the community, and are more competent than other members. Reinforcement is also organizes the values in a community. The more values are shared among community members, and the ability of the community to share those needs can increase its strength. A strong community is able to fit people together so that members meet each others' needs. Because of this, integration and fulfillment of needs works both ways. If the community is more integrated, the individuals will have more of their needs fulfilled and vice versa (McMillan & Chavis, 1986).

A shared emotional connection is based on a shared history. The members of the group must identify with the shared history to have an emotional connection to each other. The quality of the shared events also inhibits or facilitates the strength of the

community. There are seven ways that affect a shared emotional connection: increased interactions, quality of the interactions, closure to events, shared event importance, and investment. Time members spend with a group affects their sense of community. The amount of time and energy one puts into a community, the more the member cares about the community, and has a stronger emotional connection to that community. The other two ways shared emotional connections are affected are the effect of honor and humiliation on community members, which means that if someone is honored in the community, he has more of a connection to the community, and vice versa if the person is humiliated. Another way people can be connected is by spirituality, which is the role of religion in a community (McMillan & Chavis, 1986).

The dynamics within the elements seem to reinforce each other. For example, the five dynamics of membership, boundaries, emotional safety, a sense of belonging and identification, and personal investment, and a symbol system, all work together, to create membership. Dynamics among the elements (membership, influence, integration, and fulfillment of needs, and shared emotional connection) also are interconnected like the dynamics within the elements so to increase the sense of community of an individual or group (McMillan & Chavis, 1986).

Sense of Community and Academic Achievement

Several studies have identified a positive correlation between sense of community and academic achievement. Shouse (1996) showed that schools that have a high sense of community have an increased academic achievement. In this study, the researcher looked at schools that have high shared values, a common agenda of activities, and an ethic of caring and collegiality. The researcher found that an academically oriented sense of

community may hold great potential for raising student achievement (Shouse, 1996). School programs that focus on group identity, warmth and tone of interpersonal relationships, and opportunities for new relationships among students, teachers, and administrators has also been shown to increase academic achievement (Sherblom and Marshall, 2005). Specifically, reading scores increase the most when high school students identified the following independent variables as being relevant at their school: staff perceptions of students' feelings of belonging, student sense of well being at the school, students' self-reported concern for others, and student sense of democratic values (Sherblom and Marshall, 2005). College students do a lot of reading, and since sense of community characteristics have been shown to increase students' reading achievement, it can be shown that a school with a strong sense of community can positively increase academic achievement as well.

Israel et al. (2001) found that when communities value inclusiveness of interests represented, widespread involvement of decision making and implementation, and adults' interest in the welfare of children, students' academic achievement also increases. In the case of the mentoring program or peer advising program, when first year students identify that upper class students have an interest in their welfare, their academic achievement can increase.

Along with academic success, sense of school belonging can also positively influence academic motivation, academic effort, and absenteeism (Sanchez, Bauer, & Paronto, 2006). School sense of belonging can influence the aforementioned variables, which in turn all can combine to increase academic success.

Formal Peer Mentoring Programs

Formal peer mentoring programs are mentoring programs in which students are the mentors and students are the protégés. These can be most helpful to a university because formal peer mentoring programs can be low cost to the participating university and can yield outcomes that are most beneficial to the university (Sanchez, 2006). In formal peer mentoring programs, protégés receive more career development and personal growth support (Noe, 1988). Also, serving as a mentor increases academic success (Sanchez et al., 2006). Serving as a mentor increases academic success because the mentor is more involved in his or her academics, and studies have shown that student involvement increases academic success (Astin, 1977, 1984).

Some roles that have been identified in high quality mentoring programs are coaching, acceptance and confirmation, role modeling, counseling, protection, exposure and visibility, sponsorship, challenging assignments, coaching, and friendship (Noe, 1988).

Mentoring and Academic Achievement

Mentoring in higher education literature has been studied through the lens of academic achievement. The functional definition of mentoring in the higher education literature is, "Mentoring is a process by which persons of superior rank, special achievements, and prestige instruct, counsel, guide, and facilitate the intellectual and/or career development of persons identified as protégés, and the definition emphasizes intellectual achievement much more than the management and psychological literature does for good reason (Blackwell, 1989). Studies have shown that there are many benefits to mentoring, which include improving academic achievement, assist students at risk for

attrition to other schools, feed the pipeline to graduate schools and career development, and humanize large and impersonal academic institutions (Jacobi, 1991).

In the higher education literature, there have been up to fifteen functions of a mentor (Jacobi, 1991). To paraphrase, the fifteen different types of functions can be broken into three categories: emotional and psychological support, career and professional development, and role modeling (Olian, et al., 1988).

The most important aspects of successful mentoring experiences are that the mentor and protégé need to have similar backgrounds, the pair need to have similar attitudes, values, and beliefs; and the protégé should not have a direct reporting relationship with the mentor (Jacobi, 1991)

In higher education research, studies have shown that mentoring is more common at the graduate level (Jacobi, 1991). However, the literature points to a deficiency in studies conducted at the graduate level because there are fewer graduate students at any given university to support a study which can be statistically valid. Informal mentoring programs, in which faculty members are the mentors, show increases in academic success as well (Tracey and Sedlacek, 1985; Allen et al., 2000; Johnson, 2002). One of the major problems with the literature is that not many researchers have conducted meta analysis studies that show a pattern in mentoring programs. In addition, the literature has weaknesses in that there have been very few studies conducted involving graduate and minority students. These groups, which are often alienated by the university to begin with, would benefit the most from mentoring programs (Johnson, 2002).

Student Integration Model

The Student Integration Model is a model that includes both social and academic factors to explain a student's need to stay or not stay in a school setting. According to the model, students enter college with individual traits, including family background, individual attributes, and pre-college educational backgrounds. Individual attributes can include academic ability, race, and gender (Tinto, 1975, 1987, 1993).

Academic integration contains two components. The first component is the structural aspect of the model, which includes academic performance, measured by grades. The second component of academic integration includes the normative components, which are the student's ability to conform to the academic institution. If the student and the institution are able to meet each other intellectually, the student has successfully integrated into the school (Tinto, 1975, 1987, 1993).

Social integration means that the student is able to identify with the social system of the academic institution. Informal peer group associations, extracurricular activities, and interactions with faculty and staff all affect social integration. Academic and social integration both play a role in student commitment to the university. If academic integration, social integration, or both forms of integration are high, the student is likely to remain committed to the university (Tinto, 1975, 1987, 1993). The literature examines the evolution of several theories about student success. Student involvement theory is the final product of many different theories, including: subject matter theory, resource theory, and individualized theory.

Student Involvement Theory

Student involvement theory states that the more involved students are in their education, the more likely they are to achieve positive results (Astin, 1977). However, different theories have also predicted student success, and these previous theories help explain student involvement theory.

Subject matter theory states that the better the subject matter, the more successful the student will be academically. This assigns students a passive role in the learning process. Subject matter theory also emphasizes higher levels of success with better professors and better material. Subject matter theory, however, does not address any resources that the student may use at the university (Astin, 1984)

Resource theory addresses the need to examine college resources as a way to measure student success. Resource theory is dependent on university resources, such as labs, libraries, and technological resources as ways to measure student success, and the better the resources, the better the students will excel academically. In this theory, faculty are treated as a resource, and a popular measure is the student-faculty ratio. However, major problems in this theory are that resources are finite. Another major problem is that little attention is given to how resources are used. A combination of the two latter theories would be a better way to study student resources (Astin, 1984).

Individualized theory looks at multiple ways in which students can be successful in school. These approaches include the subject matter, teaching, and the resources at the university to identify student success. Individualized theory emphasizes individual student involvement through advising, counseling, and independent study. While individualized theory is more wholesome in the way it identifies student success, it is expensive to implement because each student requires individual attention. However, it

works well with graduate students because graduate students participate in one-to-one advising and independent study projects much more (Astin, 1984).

However, the higher education literature points to student involvement theory as way to measure student success, because student involvement theory identifies ways in which the student can be successful in the learning process. "A particular curriculum must elicit sufficient student effort and investment of energy to bring out the desired learning and development," meaning that the student must be responsible for the learning just as much as the curriculum must be responsible for the student to learn (Astin, 1984).

Since all of this is occurring within the university, students will be more involved emotionally and objectively, creating an environment that allows them to be more successful in their studies.

Common measures in student involvement theory are the protégés' place of residence (on or off campus), participation in mentoring programs, honors programs, academic involvement, student-faculty interaction, athletic involvement, and involvement in student government (Astin, 1984). All of these measures can help determine if a student is more academically involved, and if the student is probably going to be more successful in school.

Sense of Community Index

McMillan and Chavis developed the sense of community index (1986) to quantitatively measure sense of community. The sense of community index was initially developed to measure adults' sense of community in a residential setting (Chipuer & Pretty, 1999). The sense of community index has been extended for use in community psychology research. The first sense of community scale had twenty four open ended

questions, but was later reduced to twelve true/false questions. The twelve questions have subscales that measure the four dimensions of the sense of community: membership, influence, integration, and fulfillment of needs, and shared emotional connection. Several studies support the dimensions of the sense of community index (Plas & Lewis, 1996). Of particular interest is Pretty's (1990) study that showed a significant relationship between the sense of community index and support and demand characteristics of college students' social environment.

The sense of community index was found to provide a way to measure sense of community with the four dimensions of membership, influence, integration and fulfillment of needs, and shared emotional connection (Chipuer & Pretty, 1999). The sense of community index is most reliable when applied to long term residents, because long term residents of a community feel the most sense of community. Conversely, it is difficult to measure adolescents' sense of community with the sense of community index because adolescents have not been in the community long enough to full reap the benefits of such a group. In particular, adolescents score particularly lowest in the subscale of influence, largely because they have little to no impact in this area. In addition, adolescents have less of a choice of where they choose to live; they have less of a choice of what community they want to join. Adolescents also do not score well on the sense of community index because they do not feel place attachment as readily as other groups (Chipuer & Pretty, 1999). The sense of community index was found to not adequately address the all aspects of adolescents' aspects of community. For example, the sense of community index does not address, "having fun," which important in maintaining a positive community (Chipuer & Pretty, 1999).

The sense of community index was used to conduct studies based on the workplace with success. The sense of community index was modified to say, "your workplace" and "co-workers" instead of blocks and neighbors. This was used to show that lower sense of community index scores were significantly related to higher burnout scores (Chipuer & Pretty, 1999). It has been shown that while workers create a sense of community at work, they also appear to create emotional connections as well, which is encouraging for anyone in the workplace. Membership also scores highly when the sense of community index is used in the workplace.

The sense of community index has also been found to accurately measure sense of community in other diverse settings, religious communities, immigrant communities, and internet communities (Obst & White, 2004). Since the sense of community index was successful in measuring sense of community in such diverse fields, with such diverse groups, it can be determined that the sense of community index has proven to be both reliable and valid over the last twenty years. While there has been some discussion on changing the sense of community index to better fits the needs of the some groups, the twelve questions have been proven to meet the needs of researchers to establish an idea of the constructs of a community. With the sense of community index as an exploratory data collection device, other studies can collect more detailed data (Chavis, et al., 1990).

Methodologies

Most studies that used the sense of community index use a quantitative approach because the sense of community index lends itself most readily to this type of analysis. Most previous research has focused on four factor analysis, because there are four factors in the sense of community survey. Some research has focused on the changing the

number of factors (Obst & White, 2004), but others have confirmed that the four factor analysis works best (Chipuer & Pretty, 1999). Other researchers have put the sense of community index on a scale (McCole, 2006). For example, a five point Likert scale would give respondents a sense of community index score between twelve (lowest) and sixty (highest).

The sense of community index has been shown to accurately measure both the psychological sense and physical sense of community (Chipuer & Pretty, 1999). However, a gap in the literature exists between academic success, factors that influence sense of community, and sense of community. The sense of community would be a reliable way to predict academic success. The following chapter will elaborate on the research methodology used for the present study.

Summary

This chapter identified the literature pertinent to this study. This included literature from the fields of community psychology and higher education.

Chapter 3 Methodology

Introduction

This chapter describes the instrument selection, the design of the instrument, pilot study, sample, procedures, data analysis, and a summary.

Instrument Selection

A questionnaire was used to collect quantitative data which measured sense of community and the factors that may influence sense of community. The survey was adapted from Chavis's original sense of community index. The sense of community index has been proven to be reliable in many environments, including workplaces, religious communities, internet communities, immigrant communities, and urban communities. The sense of community index includes twelve questions, and the entire survey can be completed in a five to ten minute period.

Instrument Design

The questionnaire used for this study was adapted from Archie's (2006) study. The twelve senses of community index questions remain the same. The demographic questions have been altered based on his findings to more closely examine the variables that are of primary interest for this study. Berger (1997) found that students' living arrangement had an effect on sense of community. Additional questions pertaining to students' living arrangements were added to better quantify the effect of the students' living arrangements on sense of community and academic success. More questions asking about students' majors meeting expectations were added to better understand how different major programs affect students' sense of community. In addition, more questions pertaining to students' employment were added to better understand the

possible relationship between work, academic success, and sense of community. Additional work questions were added because Archie (2006) found that employment significantly affected students' sense of community.

Pilot Study

A pilot study was conducted to improve the reliability of the instrument. The pilot study was conducted in REC 360, Assessment and Evaluation of Recreation, Parks and Tourism, because students in this class learn how to design an instrument. They were able to provide valuable feedback as to the instrument design. The pilot study involved approximately thirty third year students in the Recreation, Parks, and Tourism Administration program. A pilot study with non-Natural Resources Management first time first year students was completed, to improve readability of the survey.

Sample

A census was attempted. There were approximately 150 first time first year students in the Natural Resources Management Department who entered the department in Fall 2007. Of those 150, approximately 80 students chose to respond to the survey.

Data Collection

The questionnaire was approved by the Human Subjects Committee. Instructors of classes that first year students take in the NRM department approved of the researcher surveying their classes. The survey was administered to six classes that first year students take: FNR 140, FNR 201, FNR 202, FNR 208, REC 110, and REC 127. Students were given the survey in the first five minutes of class. They were read the purpose of the study and the directions, and they filled out the questionnaire in less than five minutes. If the students needed more time, they were instructed to complete as much

of the survey as possible in the time allotted. Students were asked to put their name on the survey, and their GPA information was obtained through institutional records. The survey participants consented to having their GPA data obtained when they took the survey as informed consent. This was approved by the Human Subjects Committee. The data were then coded and put in a Minitab 15 spreadsheet to be analyzed using standard statistical methods, including the general linear model to determine the influence of the factors that influence sense of community, and the influence of sense of community on students' grade point averages. For the analysis, the overall sense of community score, a score between 12 and 60 was used.

Data analysis

The data were analyzed using Minitab version 15. The sense of community index was scored on a 12-60 point scale. The respondents were asked to rank their level of agreement on the twelve questions on a five point Likert scale. 12 indicated that the student answered that they strongly disagreed with every question on the sense of community index, and a 60 indicated that the student strongly agreed with every question on the sense of community index. By strongly agreeing to every question, the student had a high sense of community index score. GPA data was collected as well. The GPA's that were reported were on a 4-point scale. The factors that may affect sense of community were analyzed as well, to determine their effect on sense of community. The factors that were analyzed were major, gender, ethnicity, residence, employment, participation in ASI-sponsored clubs, recreational sports, faculty meeting students' expectations, happiness with housing situation and roommate, participation in peer advising and mentoring programs, desire to change major, and actively trying to change

major. The data was analyzed in Minitab 15, using standard modeling methods, including the general linear model to determine what factors influence sense of community and if sense of community affects students' grade point average.

Summary

A questionnaire was used to measure sense of community and the factors that influence sense of community of first year students in the NRM department. The questionnaire used for this study was adapted from Archie's (2006) study. A pilot study was conducted to improve the reliability of the instrument. The sample was the entire population of first time first year students in the Natural Resources Management Department, which is approximately 150 students. The survey was administered to four classes that first year students take. The results of the survey appear in the following chapter.

Chapter 4 Results

Introduction

This chapter begins with the descriptive statistics of the sample, and then reports the findings of this study in order of the research questions.

Participant Characteristics

The participant (n=90) characteristics are highlighted in the following tables. The characteristics include: residence, roommate situation, satisfaction with roommate situation, employment, ASI-sponsored campus club membership, Greek membership, NCAA athletic team membership, recreational sports membership, week of welcome participation, REC mentoring or FNR/ENVM peer advising participation, major meeting expectations, approachability of major faculty, desire to change major, attempt to change major, intent to return, enjoyment being a student, age, gender, major, ethnicity.

As shown in Table 3, the respondents who lived with their family had the highest average sense of community score. The next highest sense of community score was recorded by students that live on campus. Students that live in private homes or apartments have the lowest average total sense of community score.

Table 3

Descriptive Statistics-Residence

Residence	*n*	%
On campus	66	73.33
Off campus student housing	18	20.00
Private home/condo/apartment	5	5.56
With Family	1	1.11

Table 4

Descriptive Statistics-Satisfaction with residence

Satisfaction	Mean	SD
Satisfaction	3.70	1.09

Table 5

Descriptive Statistics-Roommate

Roommate	*n*	%
Roommate	86	95.56
No roommate	4	4.40

Table 6

Descriptive Statistics-Satisfaction with roommate arrangement

Satisfaction	Mean	SD
	3.87	1.17

Four people did not respond to this question.

Table 7

Descriptive Statistics-Know roommate before coming to Cal Poly

Roommate	*n*	%
Knew roommate	10	88.37
Did not know roommate	76	11.63

Table 8

Descriptive Statistics-Employment

Employment	*n*	%
On Campus	2	2.22
Off Campus	8	8.89
No Job	80	88.89

Eleven people responded to this question, as seventy-nine people skipped it because they were not employed.

Table 9

Descriptive Statistics-Employment Satisfaction

Satisfaction	Mean	SD
	3.64	1.36

Table 10

Descriptive Statistics-number of hours worked in a typical week

Number of hours	*n*	%
0-10 hours	10	11.71
11-20 hours	4	4.44
21-30 hours	2	2.22
31-40 hours	0	.00
40+ hours	0	.00
Skipped question	74	82.22

One person did not respond to this question.

Table 11

Descriptive Statistics-ASI club membership

ASI club membership	*n*	%
Member	41	46.67
Non member	48	53.93

Two people did not respond to this question.

Table 12

Descriptive Statistics-Greek social organization membership

Greek membership	*n*	%
Member	23	26.14
Non-member	65	73.86

Table 13

Descriptive Statistics-NCAA Athletic Team Membership

Membership	*n*	%
Member	4	4.55
Non member	84	95.45

Three people did not respond to this question.

Table 14

Descriptive Statistics-Recreational sports club membership

Membership	*n*	%
Member	30	34.48
Non member	57	65.52

Two people did not respond to this question.

Table 15

Descriptive Statistics-Week of welcome participation

Participation	*n*	%
Participate in Week of welcome	84	95.45
Did not participate in Week of welcome	4	4.55

One person did not respond to this question.

Table 16

Descriptive Statistics-Participation in REC mentoring program or ENVM/FNR peer advising program

Participation	*n*	%
Participated in REC mentoring program	24	26.97
Participated in ENVM/FNR peer advising program	5	5.62
Did not participate in either program	60	67.42

Two people did not respond to this question. Fifty-six people skipped this question because they did not participate in the REC mentoring program or ENVM/FNR peer advising program. The total number of people that did answer this question is thirty-two.

Table 17

Descriptive Statistics-Satisfaction with participation in REC mentoring program or ENVM/FNR peer advising program

Satisfaction	Mean	SD
	2.31	1.09

Two people did not answer this question.

Table 18

Descriptive Statistics-Current major meeting expectations

Expectations	*n*	%
Yes	76	86.36
No	12	13.64

Table 19

Descriptive Statistics-Current major meeting expectations by major

	Major		
Expectations being met	ENVM	FNR	REC
Yes	16	16	40
No	4	2	5

Table 20

Descriptive Statistics-Faculty in major approachable

Faculty approachable	*n*	%
Yes	80	96.39
No	3	3.61

Table 21

Descriptive Statistics-Faculty in major approachable

	Major		
Faculty Approachable	ENVM	FNR	REC
Yes	18	18	44
No	2	0	1

Two people did not respond to this question.

Table 22

Descriptive Statistics-Desire to change major

Desire to change major	*n*	%
Yes	22	25.00
No	66	75.00

Table 23

Descriptive Statistics-Desire to change major by major

	Major		
Desire to change major	ENVM	FNR	REC
Yes	7	2	9
No	13	16	36

Two people did not answer this question.

Table 24

Descriptive Statistics-Trying to change major

Trying to change major	*n*	%
Yes	16	18.18
No	72	81.82

Table 25

Descriptive Statistics-Trying to change major by major

	Major		
Trying to change major	ENVM	FNR	REC
Yes	3	1	9
No	17	17	36

Two people did not respond to this question.

Table 26

Descriptive Statistics-Intend to return to Cal Poly next year

Intend to return	*n*	%
Yes	82	93.18
No	0	.00
Not sure	6	6.82

Table 27

Descriptive Statistics-Intend to return to Cal Poly next year by major

	Major		
Intend to return	ENVM	FNR	REC
Yes	18	16	45
No	0	0	0
Not sure	2	2	0

Two people did not respond to this question.

Table 28

Descriptive Statistics- Enjoy being a student at Cal Poly

Enjoy being a student	*n*	%
Yes	86	97.73
No	2	2.27

Table 29

Descriptive Statistics-Enjoy being a student by major

	Major		
Enjoy being a student	ENVM	FNR	REC
Yes	18	18	45
No	2	0	0

Four people did not respond to this question.

Table 30

Descriptive Statistics-Age

Age	*n*	%
18	62	72.09
19	24	27.91

Two people did not respond to this question.

Table 31

Descriptive Statistics-Gender

Gender	*n*	%
Male	27	30.68
Female	61	69.32

Table 32

Descriptive Statistics-Major

Major	*n*	%
ENVM	20	22.73
FNR	18	20.45
REC	45	51.14
Other	5	5.68

Table 33

Descriptive Statistics-Ethnicity

Ethnicity	*n*	%
American Indian or Alaskan Native	1	1.14
Asian	4	4.55
Black	0	.00
Latino	5	5.68
White	75	85.23
Other	3	3.14

Twelve people did not respond to this question.

Table 34

Descriptive Statistics- Overall GPA

GPA	Mean	SD
GPA	2.777	0 .513

Five people did not respond to this question.

Table 35

Descriptive Statistics-Sense of Community Total

Score	Mean	SD
Score	45.35	7.76

Influence of Participant Characteristics Sense of Community

Table 36

Total sense of community score by residence

Residence	Mean	SD	*n*	%
On Campus	46.16	7.97	62	72.90
Off campus student housing	44.18	5.99	17	20.00
Private home/condo/apartment	38.40	8.50	5	5.90
With Family	50.00	0.00	1	1.20

Students that were very satisfied with their housing placement had the highest mean total sense of community score. Students who answered that they were between very unsatisfied or very satisfied had the lowest mean total sense of community score. Overall, the more satisfied people were, the higher their sense of community score.

Table 37

Total sense of community score by satisfaction with housing placement

Satisfaction	Mean	SD	*n*	%
1=Very unsatisfied	41.50	9.19	2	2.35
2	42.22	10.52	9	10.59
3	41.47	6.72	19	22.25
4	47.22	7.37	32	47.65
5=Very satisfied	47.52	6.65	23	27.06

Students who had a roommate had a higher average total sense of community score.

Table 38

Sense of community total score by participant having a roommate

Roommate	Mean	SD	*n*	%
Yes	45.66	7.80	81	95.30
No	41.25	6.40	4	4.70

Students who were fairly unsatisfied with their roommate arrangement had the highest average sense of community score, while students who were very unsatisfied had the lowest average sense of community score. Students who were fairly satisfied with their roommate arrangement had the next lowest average total sense of community score.

Table 39

Sense of community total score by satisfaction with roommate arrangement

Satisfaction	Mean	SD	*n*	%
1=Very unsatisfied	37.50	3.54	2	2.47
2	47.63	7.50	8	9.88
3	45.00	8.90	16	19.75
4	44.50	8.33	22	27.16
5=Very satisfied	46.52	7.50	33	40.74

Students who knew their roommate before coming to Cal Poly had a slightly higher average total sense of community score than students who did not know their roommate prior to coming to Cal Poly.

Table 40

Sense of community total score by knew roommate before coming to Cal Poly

Knew Roommate	Mean	SD	*n*	%
Yes	46.80	6.89	10	12.30
No	45.38	7.95	71	87.70

Students who worked on campus had the highest average total sense of community score. Students who worked off campus had the lowest average total sense of community score.

Table 41

Sense of community total score by employment

Employment	Mean	SD	*n*	%
On campus	53.00	0.00	2	2.40
Off campus	42.86	8.67	7	8.20
No Job	45.35	7.76	85	89.40

This question did not have enough respondents to accurately infer any data about average total sense of community scores.

Table 42

Total sense of community score by employment satisfaction

Satisfaction	Mean	SD	*n*	%
1=Very unsatisfied	50.00	0.00	1	1.20
2	37.00	0.00	1	1.20
3	51.00	8.16	3	3.50
4	37.50	3.54	2	2.40
5=Very satisfied	44.33	9.02	3	3.50

Students worked zero to ten hours a week had the highest total average sense of community scores, and students who worked twenty-one to thirty hours a week had the lowest sense of community scores, but the standard deviation was very high for this group.

Table 43

Total sense of community score by number of hours worked in a typical week

Hours worked	Mean	SD	*n*	%
0-10	46.56	8.59	9	10.60
11-20	42.67	9.93	3	3.50
21-30	42.50	10.61	2	2.40
31-40	0.00	0.00	0	0.00
40+	0.00	0.00	0	0.00

Students who were members of an ASI-sponsored club had a higher average total sense of community index score than students who were not members of an ASI-sponsored club.

Table 44

Total sense of community score by ASI-sponsored club membership

ASI club membership	Mean	SD	*n*	%
Member	47.72	6.34	39	45.90
Not a member	43.35	8.34	46	54.10

Students who were members of a Greek organization had a slightly higher average total sense of community score than students who were not members of a Greek organization.

Table 45

Total sense of community score by Greek membership

Greek membership	Mean	SD	*n*	%
Member	45.83	7.93	23	27.40
Not a member	45.05	7.75	61	72.60

Students who were not members of an NCAA athletic team had a higher average total sense of community score, but there sample size for athletic team members is very low.

Table 46

Total sense of community score by NCAA athletic team membership

Athletic team membership	Mean	SD	*n*	%
Member	44.50	5.06	4	4.80
Not a member	45.30	7.89	80	95.20

Students who were members of a recreational sports team had a slightly higher average total sense of community score than students who were not members of a recreational sports team.

Table 47

Total sense of community score by recreational sports membership

Recreational sports	Mean	SD	*n*	%
Member	45.97	7.92	29	34.90
Not a member	45.06	7.70	56	65.10

Students who participated in Week of Welcome (WOW) had a significantly higher average total sense of community score than students who did not participate in WOW. While there were only four students who did not participate, the average total sense of community score is quite a bit lower, and the standard deviation is very low.

Table 48

Total sense of community by week of welcome (WOW) participation

WOW Participation	Mean	SD	*n*	%
Participate	45.60	7.86	80	95.20
Did not participate	39.75	3.78	4	4.80

Students who participated in ENVM/FNR peer advising programs had a higher average total sense of community score. Students who participated in the REC mentoring program also had on average higher total sense of community score. Students who did not participate in either program had the lowest average total sense of community score.

Table 49

Total sense of community score by REC mentoring or ENVM/FNR peer advising programs

Program Participation	Mean	SD	*n*	%
REC Mentoring	48.45	6.89	22	25.90
ENVM/FNR Peer Advising	50.80	5.36	5	5.90
Neither	43.71	7.76	58	68.20

Students who were satisfied with their participation in the programs had the highest average total sense of community score. Students who were very unsatisfied or

fairly satisfied with their participation had nearly identical low average total sense of community scores.

Table 50

Total sense of community score by program participation satisfaction

Program Satisfaction	Mean	SD	*n*	%
1=Very unsatisfied	48.33	8.78	9	10.71
2	48.57	5.80	7	8.33
3	49.40	5.46	10	11.90
4	48.25	4.50	4	4.76
5=Very satisfied	0.00	0.00	0	0.00
Skipped question	43.52	7.98	54	64.29

Students who thought their major was meeting their expectations had a significantly higher average total sense of community total score than students who did not think their major was meeting their expectations.

Table 51

Total sense of community score by major meeting expectations

Major meeting expectations	Mean	SD	*n*	%
Yes	47.44	5.81	73	85.90
No	32.67	5.87	12	14.10

Students who thought the faculty in their major were approachable had a significantly higher average total sense of community score than students who did not think the faculty in their major were approachable. There were only three students who did not believe the faculty in their major were approachable.

Table 52

Total sense of community score by faculty in major approachable

Faculty meeting expectations	Mean	SD	*n*	%
Yes	45.89	7.17	82	96.50
No	30.67	10.69	3	3.50

Students who had a desire to change their major had a significantly lower average total sense of community score than students who did not have a desire to change their major.

Table 53

Total sense of community score by desire to change major

Desire to change major	Mean	SD	*n*	%
Yes	37.29	7.50	21	24.70
No	48.00	5.80	64	75.30

Students who were actively trying to change their major had a significantly lower average total sense of community score than students who were not actively trying to change their major.

Table 54

Total sense of community score by attempt to change major

Attempt to change major	Mean	SD	*n*	%
Yes	37.87	9.66	15	17.60
No	49.96	6.58	70	82.40

Students who were intending to return to Cal Poly had a significantly higher average total sense of community score than students who were unsure about returning to Cal Poly.

Table 55

Total sense of community score by intent to return

Intent to return	Mean	SD	*n*	%
Yes	46.08	7.37	79	92.90
No	0.00	0.00	0	0.00
Unsure	35.83	6.85	6	7.10

Students who enjoyed being a student at Cal Poly had a significantly higher average total sense of community score than students who did not enjoy being students at Cal Poly. There were only two students who did not enjoy being students at Cal Poly, and their average total sense of community score was half the average total sense of community score of people who enjoyed being students. In addition, the standard deviation for students who did not enjoy being students was small.

Table 56

Total sense of community score by enjoyment being a student at Cal Poly

Enjoyment	Mean	SD	*n*	%
Yes	45.88	7.02	83	97.60
No	23.50	3.64	2	2.40

Students who were 19 years old had a higher average total sense of community score than students who were 18 years old.

Table 57

Total sense of community score by age

Age	Mean	SD	*n*	%
18	45.18	7.87	60	72.30
19	46.13	7.20	23	27.7

Females had a higher average total sense of community score than males. In addition, females had a smaller standard deviation in their average total sense of community scores.

Table 58

Total sense of community score by gender

Gender	Mean	SD	*n*	%
Male	41.96	8.60	27	31.80
Female	46.93	6.86	58	68.20

Students in the REC major had the highest average total sense of community score. The lowest score of majors offered within the Natural Resources Management (NRM) Department had the ENVM major. Students who reported a major outside the majors offered by the Natural Resources Management Department had the lowest average total sense of community score.

Table 59

Total sense of community score by major

Major	Mean	SD	*n*	%
ENVM	44.21	9.44	19	22.40
FNR	45.83	6.57	18	21.20
REC	46.51	7.34	43	50.60
Other	38.00	5.10	5	5.90

Students who identified as Latinos had the average total sense of community scores, with a small standard deviation. Students who identified themselves as Asian had by far the lowest average total sense of community score, but they had the largest standard deviation.

Table 60

Total sense of community score by ethnicity

Ethnicity	Mean	SD	*n*	%
American Indian or Alaskan Native	45.00	0.00	1	1.20
Asian	39.00	12.12	3	3.50
Black	0.00	0.00	0	0.00
Latino	47.00	3.54	5	5.90
White	45.51	7.01	73	85.90
Other	45.33	22.81	3	3.50

The student who had the lowest GPA also had the lowest average total sense of community score. Students who had GPA's between 3.001 and 3.500 had the next lowest average total sense of community scores. Students who had the highest average

total sense of community scores had GPA's between 2.001 and 2.500 and 2.501 and 3.000.

Table 61

Total sense of community score by overall GPA

GPA	Mean	SD	*n*	%
0-.500	19.00	0.00	1	1.32
.501-1	0.00	0.00	0	0.00
1.001-1.5	48.00	0.00	1	1.32
1.501-2	45.67	12.50	3	3.95
2.001-2.5	47.07	5.46	14	18.42
2.501-3	47.07	7.79	28	36.84
3.001-3.500	43.65	7.49	26	34.21
3.501-4	45.33	6.66	3	3.95

Influence of GPA on Sense of Community Score

As shown in Table 60, there is not evidence that sense of community has an influence on GPA. The confidence interval, which is the estimate that a one point increase in GPA is -2.431±3.959. Since zero is in the margin for error, sense of community does not predict GPA.

Table 62

Influence of GPA on total sense of community score

Predictor	p-value	*ci* for $ß_i$
GPA	.233	-2.431±3.959

Influence of Factors on Sense of Community Score

The factors of overall GPA, major, gender, ethnicity, on campus housing, work, intent to return, desire to change major, ASI-sponsored club membership, Greek membership, recreational sports participation, major meeting expectations, faculty being approachable, and being content with one's roommate situation were analyzed to determine which influence sense of community. The factors that significantly influence sense of community are students' expectations being met and gender. These two variables have a clear influence over a person's sense of community. Other variables that may have an influence over sense of community include participation in ASI-sponsored clubs, participation in recreational sports, and living on campus. The most significant variables with their confidence intervals are included in Table 27.

Participation in ASI-sponsored clubs has the effect in the wrong direction. As shown in Table 27, the confidence interval is negative, which means that students who participate in ASI-sponsored clubs actually appear to have a lower sense of community score. When this variable was looked at more closely, there was no clear reason why the confidence interval appeared to be negative. Logically it seems that students that participate in ASI-sponsored clubs would have a higher sense of community.

Table 63

Significant variables that affect sense of community total score

Variable	p-value	*ci* for β_i
Expectations in major being met	.000	12.654±5.686
Gender	.011	5.111±3.781
Participation in ASI-sponsored clubs	.032	-2.843±2.536
Participation in recreational sports	.043	3.020±2.854
Living on campus	.046	3.339±3.201

Chapter 5 Discussion

Introduction

This chapter summarizes the purpose, procedures, data analysis, significant results, and research questions. The discussion will then compare to how the results compare to previous research. This chapter also includes practical implications, research implications, and suggestions for future research.

Summary of the Purpose

The purpose of this study was to determine the factors that influence Sense of Community for first time first year students within the Natural Resources Management department at Cal Poly, as well as the influence of Sense of Community for first time first year students on the students' GPA.

Summary of the Procedures

This study used an adapted version of the Sense of Community Index originally developed by McMillan and Chavis (1986) and later modified by Archie (2006). Additional questions were added to determine what factors affect students' sense of community. Factors that were added include residence, roommate situation, employment, club membership, and satisfaction with major and Cal Poly. Demographic questions were also asked to determine students' age, gender, major, and ethnicity. Following human subjects approval and instructor consent, the survey was administered to four introductory classes in the Natural Resources Management Department (FNR 201, FNR 202, REC 110, and REC 127). The survey was administered at the beginning of class between weeks seven and finals week of Winter Quarter 2008. First year students

not in those classes were then contacted via email twice invited to take the survey online. The data were then coded and entered into a Microsoft Excel spreadsheet.

Summary of the Data Analysis

The data were coded and entered into a Microsoft Excel spreadsheet, then copied into Minitab 15 for statistical analysis. The general linear model was used to calculate the influence of factors on sense of community and the influence of Grade Point Average on sense of community.

Summary of Significant Findings

The sample was reflective of the population, as most of the students were REC majors. The students were all either eighteen or nineteen years old, which is expected for first year students. In addition, most students lived on campus. This is also expected for the population.

The response rate was approximately 60%. This response rate affected the survey results because the survey got a smaller variation of responses. For example, some students who did not participate could have had a lower sense of community score, but there is no data from them. Also, there could be different variables that increase sense of community scores. In addition, there were low responses from minority groups, which make it difficult to determine if the Natural Resources Management department is properly serving their needs.

The results of the study indicated that there was not evidence that grade point average (GPA) had a significant influence on sense of community. When analyzed as a whole model, the factors of gender, participation in recreational sports clubs, participation in ASI-sponsored clubs, living on campus, and students' major meeting

their expectations all had a significant influence on students' sense of community index score. The size of the effect of students' perception of the major meeting their expectations increased their sense of community score the most. Students' gender had the next biggest increase on students' sense of community scores; in particular, females had a much higher sense of community than males. Participation in ASI-sponsored clubs had the third most significant influence on students' sense of community, however, the influence appeared to be negative for an unknown reason. Participation in recreational sports had the fourth most influence on students' sense of community. Living on campus had the fifth most influence on students' sense of community scores.

In regards to the question about students' major meeting their expectations, this data was by far the most influential. Most of the students who said their major was not meeting their expectations had the lowest sense of community scores. These students also found that the faculty in their major were not approachable at a higher rate than the total population. Ninety percent of them also answered that they wanted to change their major. However, there were only eleven students that said their major was not meeting their expectations. There is evidence, however small, that students' major meeting expectations is an important part of their sense of community score. However, most of these students enjoy themselves at Cal Poly, and they want to come back to Cal Poly. Their GPA was average to above average; their thoughts about their major are not confined to a gender or major, either. The respondents appear to be in the wrong major, and want to get out as soon as possible. Responses to the open-ended question confirmed their dislike for the major they were in. While the most typical responses for the entire population when asked, "Please reflect on your experiences in your major over your first

two quarters. Then, select a word or phrase that you feel describes or characterizes your experience," were, "interesting," "engaging," or "exciting," the students who thought their major wasn't meeting their expectations answered, "I really hated the first two quarters," "[I feel]misplaced," "I want to change," or "not for me." Apparently they really haven't enjoyed their time in their major.

Conclusions

Based on the findings of this study, the following conclusions are drawn:

1. The factors of students' major meeting their expectations being met, gender, participation in ASI-sponsored clubs, participation in recreational sports, and living on campus influence students' sense of community.
2. Sense of community does not influence GPA.

Comparing the Findings with Published Literature

Previous research in the sense of community literature has determined that sense of community does have an influence on academic success (Shouse, 1996; Sherblom, et al., 2005; Israel, et al., 2001), Sanchez, et al., 2006). However, this study did not find that sense of community influences GPA.

There was not evidence that major had an influence on sense of community. This was an exploratory variable, and there was no literature to compare this finding to.

Gender had a highly significant influence on sense of community in this study. This variable was the second most influential variable. The body of literature in sense of community also has found that women report a greater sense of community (Sanchez, et al., 2006). Women tend to value connections more than men, and this study confirms that as well (Jacobi, 1991).

Ethnicity was not significant in this study. While some studies have found ethnicity to influence sense of community, it was largely in the context that they felt more connected to their ethnicity than other aspects of the community. In the Natural Resources Management Department, most of the students are white, and there are not enough minority students to have a common connection within minority groups. Even students who identified with being white, however, did not have an influence on sense of community.

Living on campus had a significant influence on sense of community. Studies have found that living on campus has a positive influence on students' sense of community (Berger, 1997). Students living on campus probably feel more connected to other first year students, so it is logical that it would increase their sense of community scores.

Work did not have a significant influence on sense of community. Not many students had a job, and the ones that did mostly worked off campus. Because of this, they probably felt less connected to other students. Also, of the students who did not attend WOW, most of them were working. This could have had an influence on their sense of community, as they met fewer people during orientation week. Attending WOW was not significant in this study either.

Participation in ASI-sponsored clubs had a significant influence on students' sense of community. Tinto's (1997) study found that students who participated in campus clubs were more socially integrated, raising their sense of community scores. In this study, however, participation in a fraternity or sorority was not a significant influence on students' sense of community. Participation in campus recreational sports, however,

had a significant influence on students' sense of community. Tinto's (1997) also found that recreational sports participation helped students feel more socially integrated in college, thereby raising their sense of community. However, there was evidence in this study that participation in ASI-sponsored clubs negatively influenced students' sense of community scores. The cause of this negative influence is not known.

Students' perception that their major was meeting their expectations had by far the most influence on students' sense of community scores. The Sanchez and Ferrari study (2005) study found that when students' academic expectations were being met, they had a higher sense of community as well. While Sanchez's results show a significant relationship between expectations and sense of community, the influence has been shown to be far greater in this study. However, students' perception that their faculty were approachable was not significant in this study.

Students' satisfaction with their roommate and their housing situation (combined into one variable in this study) was not significant in this study. Tinto (1997) found that happiness in one's living arrangement was a significant influence in their sense of community, however, this study did not detect this effect.

Students' participation in mentoring and peer advising programs was not significant in this study. Jacobi (1991) and Sanchez et al. (2006) found that participation in mentoring programs was a significant influence on students' sense of community. The mentoring program here is small and is beginning to develop. Maybe in the future it will have a more significant influence on students' sense of community.

Students actively trying to change their major was not a significant influence on sense of community. In addition, students who said they would like to change their major was not significant in this study.

Practical Implications

There are some practical implications for the Natural Resources Management Department. The department could make sure that potential students understand the expectations of the major more carefully before students apply. Students who said their major was not meeting their expectations had the lowest sense of community scores, and had no desire to continue in their major. As some of the majors are already having trouble with graduation and retention rates, this would help those major retain students.

Participation in ASI-sponsored clubs had a significant negative influence on students' sense of community for an unknown reason. However, the NRM department could encourage more clubs, which would help students feel more connected to their major. The department could also promote the current clubs more, and help first year students find clubs that more closely match their interests. Recreational sports participation also had a significant influence on sense of community. The NRM department could encourage students to participate in recreational sports. The department could sponsor teams from each major. This would help students feel more connected to each other and the major.

This study and other studies have also noted the significance of living on campus. The Natural Resources Management department could encourage first year students to live on campus. This would help first year students in the NRM department feel more connected to the university as well. First year Natural Resources Management students

could live together in a dorm. This would be particularly helpful because they would feel more connected to the university, both in their major and in an on campus living environment. This study and previous research (Archie, 2006; Berger, 1997) have found that living on campus helps create a stronger sense of community. Also, there are many new dorms being built on campus. This would help students feel a stronger sense of community on campus, in both their first year and following years. The university could require first year students to live on campus, and guarantee housing for first year students. This would help students feel more connected to the university, and could help them feel more connected to their major as well.

Freshmen orientation (WOW) was not significant in this study, as it was not significant in Archie's (2006) study. While there was not evidence to suggest that WOW participation was significant, almost everyone in this study attended WOW. The department could conduct its own freshmen orientation that would include an overview of the expectations of the department, an introduction to ASI-sponsored clubs and recreational clubs, and help with living on campus. The department could begin to introduce the expectations of the major during open house, held in April of the previous school year, so that students could understand what is expected of them early on, and could start the process of changing majors early.

While sense of community does not influence academic success, there could be ways to integrate academics and sense of community. Making sure people understand the expectations of the major may be more helpful to influence sense of community.

Research Implications

The field of community psychology has shown that there are some factors that influence sense of community more than others. This study showed that students that are more integrated in their campus community are more likely to feel more connected, and this is consistent with other research done using many different variables. One variable that has shown to have an influence on sense of community is gender. More studies could be conducted to better understand why women have a higher sense of community, to determine what men can do to become more integrated in the community, or how researchers could find ways in which men are socialized just as women.

This study has confirmed that living on campus has a significant influence on sense of community. There have been many studies, both at Cal Poly and other universities that have also found that living on campus has a significant influence on sense of community. Researchers could determine why living on campus has such an influence, and if students could continue living on campus throughout their four years in college.

While this study did not identify sense of community influencing academic success, there have been many other studies that have identified sense of community being significant. There could be more studies conducted that would help better understand the correlation between the two.

Suggestions for Future Research

One place to conduct future research is to determine why students felt that their major meeting expectations is so important. Research could be conducted to determine what expectations students think exist for their major. This would help the university

better identify its expectations, and hopefully students and the university would better understand their expectations.

Future research could also explore the relationships that can exist between peer groups, and if a mentoring program or peer advising program could help students better understand the expectations of their major.

A longitudinal study may also help the university understand students' expectations as they begin to apply to college through their graduation. This would help the university better understand what the students think is expected of them before they apply to a certain major.

They would be able to be more success if they understand the expectations earlier in their college career.

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Appendices

Appendix A

Sense of Community Questionnaire

Sense of Community Questionnaire

In order to better serve first year students in the Natural Resources Management Department, we are conducting a study regarding your experiences as a first year student. Your responses will be kept confidential. Thank you for your participation.

For this first section, please reflect on your 1st two quarters at Cal Poly so far. This section will ask you to respond to questions regarding your Living Arrangements and your Work Experience.

1. Where do you live?

____On Campus ____Off campus student housing (Stenner Glenn, Mustang Village, etc)

____Private home/condo/apartment ____With Family

On a scale of 1 to 5, 1 meaning you're very unsatisfied and 5 meaning you're very satisfied, please rate your level of satisfaction with the following questions

2. How satisfied are you with your housing placement?

Very Unsatisfied **Very Satisfied**

1 2 3 4 5

3. Do you have a roommate?

____Yes ____No (If you selected "No" please skip to question number **4**.)

3A. How satisfied are you with your roommate(s) arrangement?

Very Unsatisfied **Very Satisfied**

1 2 3 4 5

3B. Did you know your roommate before coming to Cal Poly?

____Yes ____No

4. Do you have a job?

____On Campus ____Off Campus ____No Job (If you selected "No Job," please skip to question number 5).

4A. On a scale of 1 to 5, 1 meaning you're very unsatisfied and 5 meaning you're very satisfied, please rate your level of satisfaction with your job

Very Unsatisfied **Very Satisfied**

1 2 3 4 5

4B. How many hours do you work in a typical week?

____0-10 hours ____11-20 hours ____21-30 hours

____31-40 hours ____40+ hours

For this next section, please respond to the following questions regarding your participation in various Cal Poly activities.

5. Are you a member of an ASI-sponsored campus club or student organization?

____Yes ____No

6. Are you a member of a Greek social organization (Sorority or Fraternity)?

____Yes ____No

7. Are you a member of a Cal Poly NCAA Athletic Team?

____Yes ____No

8. Do you participate in campus recreational sports (club sports or intramurals)?

____Yes ____No

9. Did you participate in Week of Welcome (WOW)?

____Yes ____No

10. Did you participate in the REC Mentoring Program or the ENVM / FNR Peer Advising Program?

_____ REC Mentoring Program _____ ENVM / FNR Peer Advising Program

_____Neither (If you selected neither, please skip to question number 11)

10A. On a scale of 1 to 5, 1 meaning you did not participate much at all to 5 meaning you participated a lot, please rate your level of participation in the mentoring or peer advising program offered by your major

Not Much				A Lot
1	2	3	4	5

For this next section, please reflect on your experience within your major during your 1st two quarters at Cal Poly.

11. Is your current major meeting your expectations?

____Yes ____No

12. Do you find the faculty in your major approachable?

_____Yes _____No

13. Would you like to change your major?

____Yes ____No

14. Are you actively trying to change your major?

____Yes No____

15. Do you intend to return to Cal Poly next year?

____Yes ____No____Uncertain

16. Do you enjoy being a student at Cal Poly?

_____Yes _____No

On a scale from 1 to 5, 1 meaning you strongly disagree and 5 meaning you strongly agree, please rate your level of agreement or disagreement with the following statements

	Strongly Disagree				**Strongly Agree**
Students in my major generally get along with each other	1	2	3	4	5
If there is a problem in my major, students can get it solved	1	2	3	4	5
On most days, I recognize people in my major	1	2	3	4	5
Other students want the same things as I do	1	2	3	4	5
I feel at home in my major	1	2	3	4	5
It is very important for me to be a student in my major	1	2	3	4	5
I care about what other students think of my actions	1	2	3	4	5
I have influence over what my major is like	1	2	3	4	5
Students in my major share the same values as I do	1	2	3	4	5
On most days, almost no one in my major recognizes me	1	2	3	4	5
I think my major is a good place for me	1	2	3	4	5
I want to return to my major next year	1	2	3	4	5

17. Please reflect on your experiences in your major over your first two quarters. Then, select a word or phrase that you feel describes or characterizes your experience.

_____Over →

For this last section, please share some characteristics about yourself.

18. Full Name: _____

First Name M.I. Last Name

19. How old are you? _____

20. What is your gender?

_____ Male _____ Female

21. What is your major?

____ Environmental Management & Protection ____ Forestry & Natural Resources

____ Recreation, Parks, & Tourism Administration ____ Other

22. What is your ethnicity?

____ American Indian or Alaskan Native ____ Asian ____ Black ____ Latino

____ Pacific Islander ____ White ____ Other

Thank you. Your participation will allow us to better serve first year students in the Natural Resources Management Department ☺